Federal Democratic Republic of Ethiopia

☞ EDICT OF GOVERNMENT ☜

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ET ISO 9381 (2005) (English): Hinged or pivoted doors -- Determination of the resistance to static torsion

ISO INSIDE

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ETHIOPIAN STANDARD

ES ISO 9381:2012

First edition

Hinged or pivoted doors — Determination of the resistance to static torsion

Identical with ISO 9381:2005

ICS: 91.060.50

Published by Ethiopian Standards Agency

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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Building structures and elements of building (TC 41) and published by the Ethiopian Standards Agency (ESA).

The standard is identical with ISO 9381:2005 Doorsets — Repeated torsion test published by International organization for Standards (ISO).

For the purpose of this Ethiopian Standard , the adopted text shall be modified as follows.

- The phrase “International Standard” shall be read as “Ethiopian Standard”; and
- A full stop (.) shall substitute comma (,) as decimal marker.

Introduction

For manufacturers of door leaves whose products are not sold as part of a doorset, provision is made for claiming compliance with the relevant requirements by the testing of such door leaves in a typical frame. Nevertheless, the fact that a particular door leaf meets with the relevant requirements in this way does not necessarily mean that a door assembly incorporating that door leaf will meet the requirements.

1 Scope

This European standard applies to all vertically hinged or pivoted doors.

The standard specifies the method to be used to determine the permanent deformation caused when static stress in torsion is applied to an open door leaf fixed in its own door frame as part of a doorset.

> NOTE : Such torsional stresses that might reasonably be expected, such as in attempts to free a door which sticks, should neither damage nor impair the performance of a door.

The method may also be used in respect a door leaf submitted for test in a frame which the manufacturer considers appropriate to and typical for the intended utilisation.

2 Apparatus

2.1 Test surround

The surround in which the test specimen is tested, which shall be sufficiently rigid to withstand the test load without deflecting to an extent likely to influence the test result.

2.2 Loading equipment

A suitable device with weights or a controlled and calibrated ram, accurate to 2 %.

2.3 Measuring equipment

A dial or digital gauge accurate to 0,01 mm.

3 Test specimens

Test specimens shall be stored and tested in a non-destructive environment within the ranges of 15 °C to 30 °C and 25 % to 75 % relative humidity.

Doors which are designed to be glazed, shall be supplied for testing with all glazing carried out in accordance with the door manufacturer's specification.

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4 Procedure

Without any vertical restraint, position the door leaf at an angle of (90 ± 5)° to the plane of the frame, and fix the top lockside corner at a point (50 ± 5) mm from each edge of the door leaf.

To take up any slack in the hinges, carefully apply a preload of (200 ± 4) N, horizontally and normal to the plane of the leaf at the lower lockside corner, at a point (50 ± 5) mm from each edge of the door leaf. Maintain this load for (60 ± 5) s. Remove the load and after (60 ± 5) s measure, to the nearest 0,1 mm, the location of the lower corner of the door leaf at the loading position (see figure 1).

To the same loading point apply a static load F and maintain for (300 ± 5) s. Measure the maximum deformation under load to the nearest 0,1 mm. Remove the load and after (180 ± 5) s repeat the measurement at the lower corner of the door leaf.

All loads shall be carefully applied and removed in maximum 100 N, accurate to 2 % increments and over a minimum of 1 s for each increment, or the equivalent rate if continous, in order to avoid dynamic effects.

5 Expression of results

Record :

- the deformation under load F and the residual deformation of the door leaf as expressed by the difference in the measurements at the lower corner of the door leaf before the application of load F and (180 ± 5) s after the removal of this load.

6 Test report

The test report shall contain the following information :

a) reference to this European standard ;

b) all necessary details to identify the doorset or door leaf ;

c) all relevant details concerning the type, specified dimensions, materials, form and construction of the doorset or door leaf, including the position of hardware ;

d) full details of the frame and hardware supplied if the assembly is not a doorset ;

e) laboratory storage and testing conditions ;

f) the load F, in newtons, applied in the test ;

g) the results expressed as in clause 5 ;

h) details of any damage that appeared during the test ;

i) name of testing laboratory ;

j) date of test.

Dimensions in millimetres

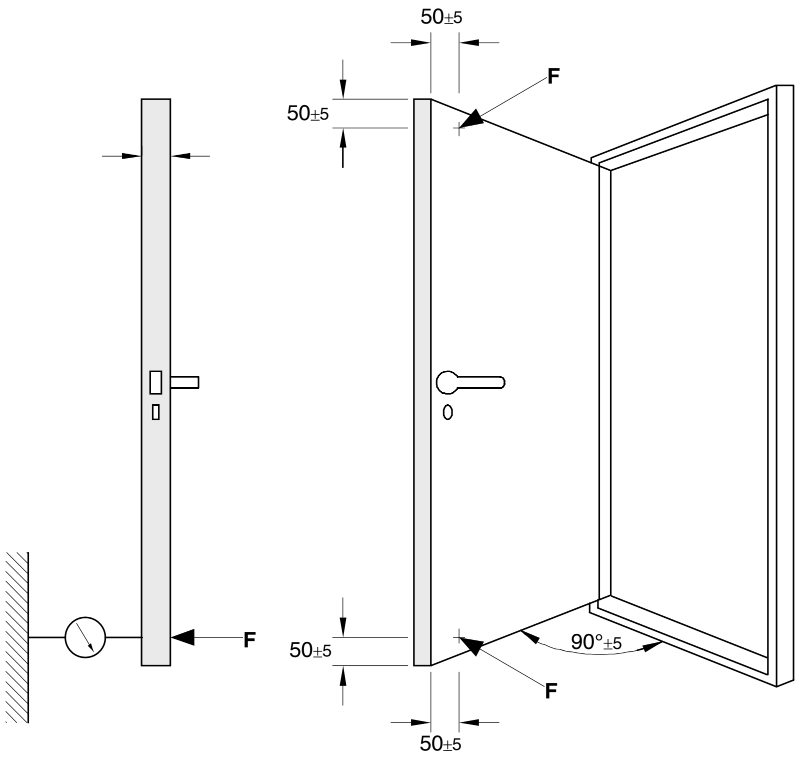

Figure 1

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Ethiopian Standards Agency

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Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010.ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1970.

ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check weather goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/ or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.
Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed in from our website.

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International Involvement
ESA, representing Ethiopia, is a member of the International Organization for Standardization (ISO), and Codex Alimentarius Commission (CODEX). It also maintains close working relations with the international Electro-technical Commission (IEC) and American Society for Testing and Materials (ASTM).It is a founding member of the African Regional Organization for standardization (ARSO).

More Information?
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